

AF/3611



60,130-1004; 96AUT013

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Ruppert et al.

Art Unit: 3611

Serial No.: 09/781,795

Examiner: Vanaman, F.

Filed: February 12, 2001

For: LOW FLOOR DRIVE UNIT ASSEMBLY FOR AN
ELECTRICALLY DRIVEN VEHICLE

Docket No.: 60,130-1004 (96AUT013)

#22
Request
(NE) Review
9-29-03
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REQUEST FOR RECONSIDERATION

Dear Sir:

In response to the Office Action of July 24, 2003, Applicant requests consideration of the following arguments. Claims 23-41, 43-46, 48-55, and 57-58 remain in the application including independent claims 23, 41, and 48. Claims 42, 47, and 56 have been cancelled. Claims 41 and 43-46 have been allowed. Claims 29-31, 33-35, 49-55, and 57-58 are indicated as allowable if rewritten in independent form.

35 U.S.C. 102(b) Rejection

Claims 23-28, 38 and 39 stand rejected under 35 U.S.C. 102(b) as being anticipated by Van Dest et al. (FR 2507550). Claim 23 includes the features of first and second driving axle shafts being co-linear and defining a lateral axis of rotation; first and second wheel hubs driven by the first and second driving axle shafts respectively about the lateral axis of rotation to move a

vehicle along a ground surface in a direction transverse to the lateral axis of rotation; a first and second gear sets for driving the first and second wheel hubs; first and second electric motors for driving the first and second gear sets; and first and second planetary gear sets driven by the first and second gear sets about the lateral axis of rotation.

As argued in Applicant's previous responses, Van Dest does not disclose this combination of features. The Van Dest reference is directed toward a drive turret for a lift truck. Lift trucks include forks (or platforms) that are mounted on a turret that is carried up and down a vertical mast. Loads, such as boxes, crates, etc., are picked up by the forks, which are then driven up the mast via the drive turret to place the load on a shelf or rack. Thus, Van Dest is not directed toward an automotive vehicle drive unit assembly for driving vehicle wheel hubs to move a vehicle as claimed by Applicant.

The examiner argues that Van Dest does not show a device for driving a load up a mast. Applicant requests that the examiner review the title of the Van Dest reference, "Drive Turret For A Vehicle, Particularly For A Handling Truck." As is well-known in the art of lift trucks, i.e. load handling trucks; drive turrets are used to drive loads up and down masts. The examiner has requested additional evidence to support Applicant's characterization of the Van Dest reference. In response to examiner's requests, Applicant is attaching copies of U.S. Pat. Nos. 3,848,759 and 3,868,034, both of which describe this well-known feature. Thus, for the reasons set forth above and in Applicant's previous responses, Van Dest does not anticipate claims 23-28, 38 and 39.

35 U.S.C. 103(a) Rejections

The examiner has withdrawn the rejection of claim 24 under 35 U.S.C. 103(a) as being unpatentable over Roe in view of Van Dest.

Claims 23, 26, 32, 36, 37, and 40 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Roe (US 3161083). Claim 23 includes the combination of an electric motor that drives a first gear set, which in turn drives a planetary gear set. Roe teaches a different configuration where a pair of motors drives a planetary gear set, which in turn drives a ring and pinion gear set.

The examiner argues that the Roe planetary set 42, 46, 58 is driven by the gear set 64-66 when the vehicle coasts. However, in this configuration the electric motor does not drive anything. Thus, the limitation of a motor that drives a first gear set is not met. However, even assuming the examiner's interpretation is correct, Roe still does not meet the other limitations of claim 23.

Claim 23 further requires first and second wheel hubs driven about a lateral axis of rotation defined by the axle shafts, electric motors defining first and second longitudinal axes that are transverse to the lateral axis of rotation, and first and second planetary gear sets driven by the first and second gear sets about the lateral axis of rotation.

The lateral axis in Roe is defined by shaft 48 driven by ring gear 66. The longitudinal axis in Roe is defined by motor shaft 40. The planetary gear set 42, 46, 58 in Roe is driven by the motor shaft 40 about the longitudinal axis. Thus, Roe does not teach a first gear set that drives a planetary gear set about a lateral axis of rotation as set forth in claim 23. Whether Roe is in direct drive or is coasting, the planetary gear set is always rotating about the longitudinal axis and is never driven about the lateral axis of rotation. Roe does not disclose, suggest, or teach all of the features set forth

in claims 23, 26, 32, 26, 37, or 40, thus the rejection under 35 U.S.C. 103(a) is improper and must be withdrawn.

Claim 25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Roe in view of Kawamoto. For the reasons, discussed above with regard to claim 23, Roe does not disclose, suggest, or teach the claimed invention.

Claim 48 stands rejected as being unpatentable over Austin in view of Quartullo and further in view of Van Dest. Van Dest is not analogous art. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). The Van Dest reference is not analogous art to Austin, Quartullo, or to Applicant's invention.

The Van Dest reference is not in Applicant's field and is not reasonably pertinent to the particular problem that the Applicant has solved. Drive turret technology for raising lift truck platforms does not include any pertinent information that would help Applicant solve problems relating to electrically powering a vehicle to drive down the road. Applicant was seeking a vehicle configuration that would provide driving input torque to a vehicle wheel without taking a significant amount of packaging space underneath the central portion of the vehicle. In other words, Applicant was addressing a need for a vehicle configuration that would allow the vehicle floor, i.e. aisle, to be moved lower to the ground.

The Van Dest reference is simply not relevant to the particular problem that Applicant was trying to solve. Van Dest was seeking to provide a more compact drive turret configuration

for a lift truck (handling vehicle) because these types of vehicles traditionally are required to lift and turn loads in narrow aisles.

Further, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. In re Fine, 837 F.2d 1071, 5 USPA2d 1596 (Fed. Cir. 1988). Even if Van Dest is considered analogous art, there is absolutely no teaching, suggestion, or motivation to modify Austin and Quartullo with Van Dest.

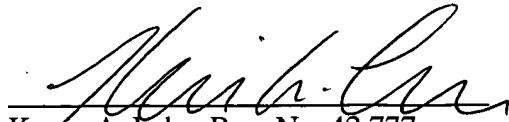
The examiner argues that Austin and Quartullo fail to teach the gearing system as driving a planetary gear set and relies on Van Dest to teach this feature. The examiner further argues that “it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a planetary gear set, as taught by Van Dest et al., driven by the gear set of Austin as modified by Quartullo, for the purpose of reducing the wheel running speed . . .”

As discussed above, Van Dest teaches a drive turret configuration for driving a load up a mast. Van Dest does not teach the use of a planetary gear set driven by electric motors to move a vehicle along a ground surface in a direction transverse to the lateral axis of rotation. One of ordinary skill in the art would have found no reason, suggestion, or incentive for attempting to combine these references so as to arrive at the subject matter of claim 48 other than through the luxury of hindsight accorded one who first viewed Applicant’s disclosure. This is not the proper basis for a rejection. Thus, the rejection of claim 48 should be withdrawn.

For the reasons set forth above, all claims should be allowed. An indication of such is requested. Applicant believes that no additional claim fees are due, however, if additional fees

are required the Commissioner is authorized to charge Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds.

Respectfully submitted,



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Dated: September 16, 2003

CERTIFICATE OF MAIL

I hereby certify that the enclosed Response is being deposited with the United States Postal Service as First Class Mail, postage prepaid, in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 16 day of September, 2003.



Laura Combs